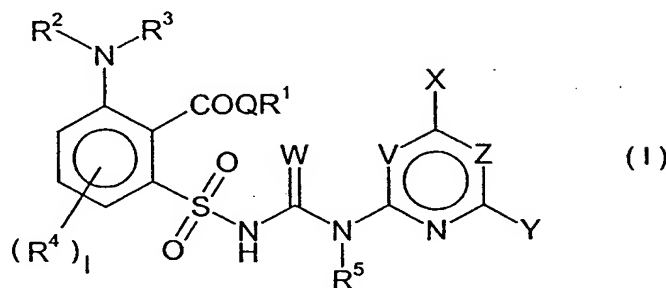


Abstract

Phenylsulfonyl ureas, process for their preparation and their use as herbicides and plant growth regulators

Compounds of the formula (I) or salts thereof



in which

R^1 is a hydrogen atom, a hydrocarbon radical or a heterocyclyl radical, where each of the two last-mentioned radicals is unsubstituted or substituted and, including substituents, has from 1 to 30 carbon atoms, preferably from 1 to 20 carbon atoms,

R^2 is a group of the formula R^0-Q^0 - in which

R^0 is a hydrogen atom, a hydrocarbon radical or a heterocyclyl radical, where each of the two last-mentioned radicals is unsubstituted or substituted and, including substituents, has from 1 to 30 carbon atoms, preferably from 1 to 20 carbon atoms, and

Q^0 is a direct bond or a divalent group of the formula $-O-$ or $-N(R^\#)-$, where $R^\#$ is a hydrogen atom, an acyl radical or a hydrocarbon radical and where the last-mentioned radical is unsubstituted or substituted and, including substituents, has from 1 to 30 carbon atoms, preferably from 1 to 20 carbon atoms,

R^3 is a hydrogen atom, a hydrocarbon radical or a heterocyclyl radical, where each of the two last-mentioned radicals is unsubstituted or substituted and,

including substituents, has from 1 to 30 carbon atoms, preferably from 1 to 20 carbon atoms,

R^4 independently of one another, are halogen, OH, SH, a nitrogen-containing radical which does not contain any carbon or a carbon-containing radical,

5 I is 0, 1, 2 or 3, preferably 0 or 1,

R^5 is a hydrogen atom or a C_1 - C_{10} -hydrocarbon radical which is unsubstituted or substituted, such as (C_1-C_4) alkyl, preferably H or CH_3),

Q is O, S or NR^* ,

10 R^* is a hydrogen atom or a C_1 - C_{10} -hydrocarbon radical which is unsubstituted or substituted such as (C_1-C_4) alkyl, (C_3-C_4) alkenyl or (C_3-C_4) alkynyl, where each of the three last-mentioned radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C_1-C_4) alkoxy and (C_1-C_4) alkylthio,

W is an oxygen or sulfur atom,

15 X,Y independently of one another are a hydrogen atom, halogen, (C_1-C_4) alkyl, (C_1-C_4) alkoxy, (C_1-C_4) alkylthio, where each of the 3 last-mentioned radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C_1-C_4) alkoxy and (C_1-C_4) alkylthio, or are mono- or di $[(C_1-C_4)$ alkyl]amino, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, (C_3-C_6) alkenyloxy or
20 (C_3-C_6) alkynyloxy, and

V, Z independently of one another are CH or N,

are suitable for use as herbicides or plant growth regulators, for example for controlling harmful plants in crop plants, including transgenic crop plants. They can be prepared by the processes according to claim 6 via intermediates, some of which
25 are novel (cf. compounds (II*) and (X*) and (VIII) as claimed in claims 12, 14 and 16).